ABSTRACT

M.Sc. Thesis

STRUCTURE CHARACTERIZATION IN METAL COMPLEXES OF OXIME DERIVATIVES BEARING HYDRAZONE

H.Tuba ÇAKICI

Adnan Menderes University
Graduate School of Natural and Applied Sciences
Departmant of Chemistry
Supervisor: Asst. Prof. Dr. Nursabah SARIKAVAKLI

In this study hydrazone-oxime derivatives bearing hydrazone and vic-dioxime group, (1*E*,2*E*)-2-(hydroxyimino)-*N*'-{(*E*) [4(oxoacetyl)phenyl] methylidene} ethan ehydroximohydrazide ($FMGH_2$), (1*E*,2*E*)-*N*'-[(*E*)-(2-formyl-5-hydroxyphenyl) methylidene] -2-(hydroxyimino)ethanehydroximohydrazide ($HAGH_2$) and (1*Z*,2*E*)-*N*'-(2-acetyl-5-methylbenzylidene)-2(hydroxyimino) ethanehydroximohydrazide ($MAGH_2$), have been obtained. Glyoximehydrazone derivatives were synthesized in terms of the reaction condensation of GH_2 [(1*Z*,2*E*)-2-(hydroxyimino) ethanehydroximohydrazide] (Sarıkavaklı and İrez, 2005) with aldehydes and ketones. After nickel (II), copper (II), cobalt (II) complexes of the obtained hydrazone-oxime derivatives have been isolated, the structures of both ligands and complexes were characterized by ^{1}H NMR, IR spectroscopy, magnetic susceptibility and elemental analysis technique.

Nowadays, hydrazone and oxime derivatives are widely used in treatment of many diseases. In this study three new ligands and their complexes, which are of important in the fields of medicine, biochemistry, analytical chemistry and chemical industry and not found in the literature, are synthesized. These compounds are analyzed in structures. The results of the structural characterization show that mononuclear complexes of the ligands have metal-ligand ratio of 1:2 and the ligands only coordinate with the *N,N'* atoms, as in many vic-dioximes.

By these results obtained, I believe that I contribute to literature and throw to the studies being done in the future.

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Key Words :
Oxime, hydrazone, vic-Dioxime, hydrazoneoxime, metal complex.